



9.39 Township of Washington

This section presents the jurisdictional annex for the Township of Washington.

9.39.1 Hazard Mitigation Plan Point of Contact

The following individuals have been identified as the hazard mitigation plan's primary and alternate points of contact.

Primary Point of Contact	Alternate Point of Contact
Name: Matthew Lopez Address: 43 Schooley's Mountain Rd Phone: 973 997 9246 E-mail: mlopez@wtmorris.net	Name: Andrew Coppola Address: 43 Schooley's Mountain Rd Phone: 908 876 3315 E-mail: acoppola@wtmorris.net

9.39.2 Municipal Profile

The Township of Washington is a residential community with a total area of 44.8 square miles, of which 44.4 square miles is land and 0.4 square miles of water. The Township is located approximately 40 miles north of the City of Trenton and 40 miles west of New York City. It is bordered by the Township of Mount Olive and the Town of Hackettstown to the north, the Township of Chester to the east, the Township of Tewksbury and Lebanon to the south, and the Township of Mansfield to the west. The 2010 population of the Township was 18,533.

There are two unincorporated communities in the Township – Long Valley and Schooley's Mountain. The Musconetcong River and the South Branch Raritan River are the two major waterways in the Township of Washington. Other waterbodies in the Township includes the Stephensburg Brook, Electric Brook, Stony Brook, Drakes Brook, and Tanners Brook.

Growth/Development Trends

The following table summarizes recent residential/commercial development since 2010 to present and any known or anticipated major residential/commercial development and major infrastructure development that has been identified in the next five years within the municipality. Refer to the map in Section 9.39.8 of this annex which illustrates the hazard areas along with the location of potential new development.

Table 9.39-1. Growth and Development

Property or Development Name	Type (e.g. Res., Comm.)	# of Units / Structures	Location (address and/or Block & Lot)	Known Hazard Zone(s)	Description/Status of Development
Recent Development from 2010 to present					
Heath Village	Res	144	B19 Lots 5, 6, 7	Flood: 1% Chance; Karst Hazard	Concept Plan only
Kings Highway	Res	208 or less	B30, Lots 70, 70.01, 70.02	Flood: 1% Chance; Karst Hazard	Concept Plan Only, Rezoning Required
Known or Anticipated Development in the Next Five (5) Years					
Heath Village	Res	144	B19 Lots 5, 6, 7	Flood: 1% Chance; Karst Hazard	Concept Plan only



Table 9.39-1. Growth and Development

Property or Development Name	Type (e.g. Res., Comm.)	# of Units / Structures	Location (address and/or Block & Lot)	Known Hazard Zone(s)	Description/Status of Development
Kings Highway	Res	208 or less	B30, Lots 70, 70.01, 70.02	Flood: 1% Chance; Karst Hazard	Concept Plan Only, Rezoning Required

* Only location-specific hazard zones or vulnerabilities identified.

9.39.3 Natural Hazard Event History Specific to the Municipality

Morris County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5.0 of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the County and its municipalities. For the purpose of this plan update, events that have occurred in the County from 2008 to present were summarized to indicate the range and impact of hazard events in the community. Information regarding specific damages is included, if available, based on reference material or local sources. This information is presented in the table below. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.39-2. Hazard Event History

Dates of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
August 26 – September 5, 2011	Hurricane Irene	EM-3332 DR-4021	Yes Yes	Shelters/warming centers were open for residents. Several evacuations occurred and one vehicle rescue. Power outages and road closures occurred throughout the Township due to heavy flooding and debris. Costs to the Township included overtime for police, DPW and fire and expenses for cleanup (\$50,446.01).
September 28 – October 6, 2011	Remnants of Tropical Storm Lee	DR-4039	No	Road closures on various roads in Township. There was also an evacuation of one home. Ten homes were flooded and pumped out by fire departments. There was significant damage to homes along Fairview, Naughtright, and Schooley's Mountain Road. Other costs to the Township included DPW overtime due flood cleanup.
October 29, 2011	Severe Storm	DR-4048	Yes	The Fairmount Firehouse served as a warming center for Township residents. The DPW transfer switch was damaged. There was one fatality as a result of this event. Costs to the Township included DPW, Fire Police and expenses of \$48,014.67.
October 26 – November 8, 2012	Hurricane Sandy	EM-3354 DR-4086	Yes Yes	Between October 29 and November 14, approximately 50% of the Township was without power. Some areas were not restored until November 15 th . The Police Station, DPW and three firehouses were operating on generators. Numerous roads were closed for up to nearly two weeks. The roof at the municipal building was damaged and the salt barn doors were also damaged, totaling over \$7,000 in repairs. Residential homes were also damaged in the Township. Other costs to the Township included the replacement of a police light bard due to a fallen tree limb, a generator at the Long Valley firehouse, and a generator switch at the DPW. There was also police, fire and DPW overtime and expenses including cleanup of over \$200,000.



Table 9.39-2. Hazard Event History

Dates of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
October 11, 2012	High Winds	N/A	N/A	High winds in the Township damaged a traffic light at West Mill Road and Schooley's Mountain Road; approximately \$559 in damages.
Jan 24, 2013	Extreme Temperatures	N/A	N/A	Extremely low temperatures causes burst pipes in Long Valley First Aid. Expenses \$12,265.31

9.39.4 Hazard Vulnerabilities and Ranking

The hazard profiles in Section 5.0 of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the hazard vulnerabilities and their ranking in the Township of Washington. For additional vulnerability information relevant to this jurisdiction, refer to Section 5.0.

Hazard Risk/Vulnerability Risk Ranking

The table below summarizes the hazard risk/vulnerability rankings of potential hazards for the Township of Washington.

Table 9.39-3. Hazard Risk/Vulnerability Risk Ranking

Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard a, c	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking b
Drought	Damage estimate not available	Frequent	27	Medium
Dam Failure	Damage estimate not available	Occasional	24	Medium
Earthquake	500-year MRP: \$2,954,599 2,500-year MRP: \$59,094,141	Occasional	24	Medium
Extreme Temperature	Damage estimate not available	Frequent	18	Medium
Flood	1% Annual Chance: \$4,925,509	Frequent	18	Medium
Geological Hazards	Exposed to Class A and Class B: \$81,554,209	Frequent	18	Medium
Severe Storm	100-Year MRP: \$3,003,560 500-year MRP: \$39,836,835 Annualized: \$194,282	Frequent	48	High
Winter Storm	1% GBS: \$65,803,083 5% GBS: \$329,015,413	Frequent	54	High
Wildfire	Estimated Value Exposed to Extreme, Very High and High: \$37,016,693	Rare	6	Low
Disease Outbreak	Damage estimate not available	Frequent	36	High
Hazardous Materials	Damage estimate not available	Frequent	36	High
Infestation	Damage estimate not available	Frequent	18	Medium

Notes:

- Building damage ratio estimates based on FEMA 386-2 (August 2001)
- The valuation of general building stock and loss estimates was based on custom inventory for the municipality.
High = Total hazard priority risk ranking score of 31 and above



Medium = Total hazard priority risk ranking of 20-30+

Low = Total hazard risk ranking below 20

- c. Loss estimates for the severe storm and severe winter storm hazards are structural values only and do not include the value of contents.
- d. Loss estimates for the flood and earthquake hazards represent both structure and contents.
- e. The HAZUS-MH earthquake model results are reported by Census Tract.

National Flood Insurance Program (NFIP) Summary

The following table summarizes the NFIP statistics for the Township of Washington.

Table 9.39-4. NFIP Summary

Municipality	# Policies (1)	# Claims (Losses) (1)	Total Loss Payments (2)	# Rep. Loss Prop. (1)	# Severe Rep. Loss Prop. (1)	# Policies in 100-year Boundary (3)
Township of Washington	74	77	\$1,876,494.40	11	2	33

Source: FEMA Region 2, 2014

(1) Policies, claims, repetitive loss and severe repetitive loss statistics provided by FEMA Region 2, and are current as of 9/30/2014. Please note the total number of repetitive loss properties includes the severe repetitive loss properties. The number of claims represents claims closed by 9/30/14.

(2) Total building and content losses from the claims file provided by FEMA Region 2.

(3) The policies inside and outside of the flood zones is based on the latitude and longitude provided by FEMA Region 2 in the policy file.

Notes: FEMA noted that where there is more than one entry for a property, there may be more than one policy in force or more than one GIS possibility.

A zero percentage denotes less than 1/100th percentage and not zero damages or vulnerability as may be the case.

Number of policies and claims and claims total exclude properties located outside County boundary, based on provided latitude and longitude.

Critical Facilities

The table below presents HAZUS-MH estimates of the damage and loss of use to critical facilities in the community as a result of a 1- and 0.2-percent annual chance flood events.

Table 9.39-5. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Potential Loss from 1% Flood Event		
		1% Event	0.2% Event	Percent Structure Damage	Percent Content Damage	Days to 100-Percent ⁽²⁾
Long Valley Volunteer Fire Company 1	Fire		X	-	-	-

Source: HAZUS-MH 2.1

Note (1): HAZUS-MH 2.1 provides a general indication of the maximum restoration time for 100% operations. Clearly, a great deal of effort is needed to quickly restore essential facilities to full functionality; therefore this will be an indication of the maximum downtime (HAZUS-MH 2.1 User Manual).

Note (2): In some cases, a facility may be located in the DFIRM flood hazard boundary; however HAZUS did not calculate potential loss. This may be because the depth of flooding does not amount to any damages to the structure according to the depth damage function used in HAZUS for that facility type. Further, HAZUS-MH may estimate potential damage to a facility that is outside the DFIRM because the model generated a depth grid beyond the DFIRM boundaries.

NA Not available

X Facility located within the DFIRM boundary

- Not calculated by HAZUS-MH 2.1



Other Vulnerabilities Identified

According to the 2010 preliminary Flood Insurance Study (FIS) for Morris County, the history of flooding in Washington Township indicates that flooding can occur at any time in the Township. The most extensive flooding occurs in the late summer and fall and is usually associated with tropical storms moving north along the Atlantic coast. Flooding in the Musconetcong River Basin has been recorded since 1922, with several major floods and many minor flooding events have occurred. Flooding along the South Branch Raritan River has been recorded since 1918 (FEMA FIS 2010).

9.39.5 Capability Assessment

This section identifies the following capabilities of the local jurisdiction:

- Planning and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Community classification
- National Flood Insurance Program
- Integration of Mitigation Planning into Existing and Future Planning Mechanisms

Planning and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Township of Washington.

Table 9.39-6. Planning and Regulatory Tools

Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Planning Capability				
Master Plan	Yes 2009	local	Planning Board	Master Plan
Capital Improvements Plan	Yes	Local	Township Committee	Annual municipal budget 2014
Floodplain Management / Basin Plan	Yes 2003	local	Planning Board	Natural Resource Inventory
Stormwater Management Plan	Yes 2005	local	Planning Board	Chapter 170
Open Space Plan	Yes 2009	local	Open Space, Recreation and Farmland Preservation Committee	Master Plan Chapter 5
Stream Corridor Management Plan	Yes 2003	local	Township Committee	Chapter 170
Watershed Management or Protection Plan	Yes 2003	local	Township Committee	Chapter 92 and 213
Economic Development Plan	Yes 2009	local	Zoning	Chapter 217
Comprehensive Emergency Management Plan	Yes April 25, 2014	local	OEM	N/A
Emergency Response Plan	Yes April 25, 2014	local	OEM	N/A
Post-Disaster Recovery Plan	No			



Table 9.39-6. Planning and Regulatory Tools

Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Transportation Plan	No			
Strategic Recovery Planning Report	No			
Other Plans:	N/A			
Regulatory Capability				
Building Code	Yes	State & Local	Construction Code Official	State Uniform Construction Code Act (N.J.S. 52:27D-119 et seq.)
Zoning Ordinance	Yes	local	Zoning Board	Chapter 3, §217 ordinance
Subdivision Ordinance	Yes	local		Chapter 111, §175
NFIP Flood Damage Prevention Ordinance	Yes	Federal, State, Local		
NFIP: Cumulative Substantial Damages	Yes	Local		Chapter 92 - Substantial improvement
NFIP: Freeboard	Yes	State, Local		
Growth Management Ordinances				
Site Plan Review Requirements	yes	local		§159
Stormwater Management Ordinance	Yes 2005	local	Various	Chapter 170
Municipal Separate Storm Sewer System (MS4)	No			
Natural Hazard Ordinance	No			
Post-Disaster Recovery Ordinance	No			
Real Estate Disclosure Requirement	No	State	Division of Consumer Affairs	N.J.A.C. 13:45A-29.1
Other [Special Purpose Ordinances (i.e., sensitive areas, steep slope)]	Yes 1994, last amended 2005	local	Various	Chapter 217-38

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Township of Washington.

Table 9.39-7. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/ Agency/Position
Administrative Capability		
Planning Board	Yes	Planning Board
Mitigation Planning Committee	Yes	OEM
Environmental Board/Commission	Yes	Environmental Committee
Open Space Board/Committee	Yes	Open Space Committee
Economic Development Commission/Committee	Yes	Economic Sustainability Committee



Table 9.39-7. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/ Agency/Position
Maintenance Programs to Reduce Risk	Yes	Safety Committee
Mutual Aid Agreements	Yes	Neighboring municipalities
Technical/Staffing Capability		
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Yes	Professional Contractors (Engineer & Planner)
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	Professional Contractors
Planners or engineers with an understanding of natural hazards	Yes	Professional Contractors
NFIP Floodplain Administrator	Yes*	Professional Contract (Engineer) Leon Hall
Surveyor(s)	No	
Personnel skilled or trained in GIS and/or Hazus-MH applications	Yes	Professional Contractor (Engineer & Planner)
Scientist familiar with natural hazards	No	
Emergency Manager	Yes	Local Office of Emergency Managements
Grant Writer(s)	No	
Staff with expertise or training in benefit/cost analysis	No	
Professionals trained in conducting damage assessments	No	

Fiscal Capability

The table below summarizes financial resources available to the Township of Washington.

Table 9.39-8. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use (Yes/No/Don't Know)
Community development Block Grants (CDBG, CDBG-DR)	Yes, via Morris County
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for specific purposes	Yes
User fees for water, sewer, gas or electric service	Yes (MUA)
Impact Fees for homebuyers or developers of new development/homes	No
Stormwater Utility Fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other Federal or State Funding Programs	Yes
Open Space Acquisition Funding Programs	Yes, local and county
Other	

Community Classifications

The table below summarizes classifications for community program available to the Township of Washington.

**Table 9.39-9. Community Classifications**

Program	Do you have this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No	N/A	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	Class 1 rating DCA	
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	5/8B	
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Disaster/Safety Programs in/for Schools	Yes	N/A	N/A
Organizations with Mitigation Focus (advocacy group, non-government)	No		
Public Education Program/Outreach (through website, social media)	Yes	Website, Nixle, twitter, Facebook	
Public-Private Partnerships	No		

N/A = Not applicable. NP = Not participating. - = Unavailable. TBD = To be determined.

The classifications listed above relate to the community's ability to provide effective services to lessen its vulnerability to the hazards identified. These classifications can be viewed as a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery, and mitigation) and are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance while the BCEGS and Public Protection classifications apply to standard property insurance. CRS classifications range on a scale of 1 to 10 with class 1 being the best possible classification, and class 10 representing no classification benefit. Firewise classifications include a higher classification when the subject property is located beyond 1,000 feet of a creditable fire hydrant and is within five road miles of a recognized Fire Station.

Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The ISO Mitigation online ISO's Public Protection website at <http://www.isomitigation.com/ppc/0000/ppc0001.html>
- The National Weather Service Storm Ready website at <http://www.weather.gov/stormready/howto.htm>
- The National Firewise Communities website at <http://firewise.org/>

Self-Assessment of Capability

The table below provides an approximate measure of Washington's capability to work in a hazard-mitigation capacity and/or effectively implement hazard mitigation strategies to reduce hazard vulnerabilities.

Table 9.39-10. Self-Assessment Capability for the Municipality

Area	Degree of Hazard Mitigation Capability		
	Limited	Moderate	High
Planning and Regulatory Capability		X	
Administrative and Technical Capability		X	



Table 9.39-10. Self-Assessment Capability for the Municipality

Area	Degree of Hazard Mitigation Capability		
	Limited	Moderate	High
Fiscal Capability		X	
Community Political Capability		X	
Community Resiliency Capability		X	
Capability to Integrate Mitigation into Municipal Processes and Activities.		X	

National Flood Insurance Program

NFIP Floodplain Administrator

Leon Hall, Township Engineer

Flood Vulnerability Summary

A formal list of flood-damaged properties and property owner's interest in pursuing mitigation is not maintained by the Township.

Resources

The NFIP FPA is the sole person assuming the responsibilities of floodplain administration. NFIP administration services and functions provided by the FPA includes development review. The Township does not provide educational programs or outreach to the community regarding flood hazards/risk and flood risk reduction.

Barriers to running an effective floodplain management program includes funding. The NFIP FPA would consider attending continuing education and/or certification training on floodplain management if offered.

At this time, the Township of Washington does not conduct formal education and outreach regarding floodplain management.

Compliance History

The Township is in NFIP compliance.

Regulatory

Current regulations and codes do not exceed the requirements set forth by FEMA and the State of New Jersey. Additional local ordinances and codes support the implementation of the floodplain management program in the Township.

Community Rating System

The Township of Washington does not participate in the Community Rating System (CRS) program.

Integration of Hazard Mitigation into Existing and Future Planning Mechanisms

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, each community was surveyed to obtain a better understanding of their community's progress in plan integration. A summary is provided below. In



addition, the community identified specific integration activities that will be incorporated into municipal procedures.

Planning

- The Township's Floodplain Ordinance and Hazard Mitigation Plan share common goal of protecting life. The Hazard Mitigation Plan will be used as a resource for the use of future grant opportunities and to assist with application development.

Education and Outreach

- The Township has a robust public information website located at: www.washtwpmorris.org The website offers information about Hurricane Preparedness as well as hazardous weather forecasts for the area. The Township also utilizes Twitter and Facebook as a public information outreach media.

9.39.6 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and prioritization.

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2010 Plan. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.



Table 9.39-11. Past Mitigation Initiative Status

2010 Mitigation Action	Lead	Status	Describe Status	Next Step	Describe Next Step
Washington Twp 1: Improve drainage and storm sewers on Naughtright and Bartley Roads.	Municipality DPW Director	No progress	Budget and personnel constraints have restricted the action from moving forward	Include in 2015 plan	This action will be included in 2015 plan update. Funding needs to be secured. Identify how to improve drainage, enlarge culvert etc. Middle Valley and Zellars Road will be added as areas that need drainage improvement for this plan update.
Washington Twp 2: Backup power for Town Hall (backup EOC/records storage) on Schooleys Mount Road.	Municipality Administration	In progress	Budget and personnel constraints	Include in 2015 plan	This action will be included in 2015 plan update. Funding needs to be secured
Washington Twp 3: Backup power for DPW.	Municipality DPW Director	Complete	Generator installed. 100% complete	Discontinue	This action is completed, discontinue in the 2015 plan
Washington Twp 4: Acquisition/elevation of two repetitive loss properties on West Mill Road.	OEM	No progress	Budget and personnel constraints have prevented this action from being implemented	Include in 2015 plan	This action will be revised for the 2015 plan update. See action #TW-3 Support the mitigation of vulnerable structures via retrofit (e.g. elevation, flood-proofing) or acquisition/relocation to protect structures from future damage, with repetitive loss and severe repetitive loss properties as a priority when applicable. Assess and prioritize non-structural flood hazard mitigation alternatives for at risk properties within the floodplain, including those that have been identified as repetitive loss, such as acquisition/relocation, or elevation depending on feasibility. The parameters for feasibility for this initiative would be: funding, benefits versus costs and willing participation of property owners. Implement as funding becomes available.
Washington Twp 5: Acquisition/elevation of one repetitive loss property on East Mill Road.	OEM	No progress	SAME AS ABOVE	Include in 2015 plan	SAME AS ABOVE
Washington Twp 6: Acquisition/elevation of one repetitive loss property on Mallard Cove Road.	OEM	No progress	SAME AS ABOVE	Include in 2015 plan	SAME AS ABOVE
Washington Twp 7: Acquisition/elevation of one repetitive loss property on Naughtright Road.	OEM	No progress	SAME AS ABOVE	Include in 2015 plan	SAME AS ABOVE



Table 9.39-11. Past Mitigation Initiative Status

2010 Mitigation Action	Lead	Status	Describe Status	Next Step	Describe Next Step
Washington Twp 8: Bury power lines, telephone trunk, and television cables in front of Long Valley Fire Company on Fairview Avenue.	OEM	No Progress	0% complete, funding required along with cooperation of telephone, power and cable companies	Include in 2015 plan	This action will be included in the 2015 plan.
Washington Twp 9: Develop all-hazards public education and outreach program for hazard mitigation and preparedness.	Local and County OEM	In progress	Budget and personnel constraints have prevented this action from being implemented	Include in 2015 plan	This action will be included in the 2015 plan update.



Proposed Hazard Mitigation Initiatives for the Plan Update

The Township of Washington participated in a mitigation action workshop in January 2015 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013).

Table 9.39-12 summarizes the comprehensive-range of specific mitigation initiatives the Township of Washington would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide-range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.39-13 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.



Table 9.39-12. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals and Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
TW-1 (old Washington Twp 1 revised)	Improve drainage and storm sewers on Naughtright, Bartley, Middle Valley and Zellars Roads.	Existing	Flood	G-4	Municipal DPW Director	Medium	High	HMA funding, Capital Budget	Long Term DOF	Medium	SIP	SP
TW-2 (old Washington Twp 2)	Backup power for Town Hall (backup EOC/records storage) on Schooleys Mount Road.	Existing	All	G-3	Municipal Administration	Medium	Medium	HMA funding, Capital Budget	Long Term DOF	Medium	SIP	PP
TW-3 (old Washington Twp 4-7)	Support the mitigation of vulnerable structures via retrofit (e.g. elevation, flood-proofing) or acquisition/relocation for the following properties: <ul style="list-style-type: none"> Two RLs on West Mill Road One RL on East Mill Road One RL on Mallard Cover Road One RL on Naughtright Road 	Existing	Flood	G-3	Municipal OEM	Medium	High	HMA funding	Long Term DOF	Medium	SIP	PP, SP
TW-4 (old Washington Twp 8)	Bury power lines, telephone trunk, and television cables in front of Long Valley Fire Company on Fairview Avenue.	Existing	All	G-2	Municipal OEM	High	High	HMA funding	Long Term DOF	Medium	SIP	PP
TW-5 (old Washington Twp 9_)	Develop all-hazards public education and outreach program for hazard mitigation and preparedness.	N/A	All	G-3	Municipal and County OEM	High	Low	HMA funding, Capital Budget	Short Term DOF	High	EAP	PI
TW-6	Purchase digital signboard for public safety messaging	N/A	All	G-1	Municipal OEM	High	Medium	HMA funding, Capital Budget	Short Term DOF	Medium	EAP	PE
TW-7	Purchase dual band radio and install in police vehicles	N/A	All	G-3	Municipal OEM	High	Medium	Homeland Security, Capital Budget	Short Term DOF	High	EAP	ES



Table 9.39-12. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals and Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
TW-8	Purchase 3 portable generators for Fire Department	N/A	All	G-3	Municipal OEM Fire Dept.	High	Medium	HMA, Homeland Security, Capital Budget	Long Term DOF	Low	EAP	ES

Notes:

Not all acronyms and abbreviations defined below are included in the table.

*Does this mitigation initiative reduce the effects of hazards on new and/or existing buildings and/or infrastructure? Not applicable (N/A) is inserted if this does not apply.

Acronyms and Abbreviations:

CAV	Community Assistance Visit	N/A	Not applicable
CRS	Community Rating System	NFIP	National Flood Insurance Program
DPW	Department of Public Works	NJDEP	New Jersey Department of Environmental Protection
FEMA	Federal Emergency Management Agency	NJOEM	New Jersey Office of Emergency Management
FPA	Floodplain Administrator	OEM	Office of Emergency Management
HMA	Hazard Mitigation Assistance		

Potential FEMA HMA Funding Sources:

FMA	Flood Mitigation Assistance Grant Program
HMGP	Hazard Mitigation Grant Program
PDM	Pre-Disaster Mitigation Grant Program
RFC	Repetitive Flood Claims Grant Program
SRL	Severe Repetitive Loss Grant Program

Timeline:

Short	1 to 5 years
Long Term	5 years or greater
OG	On-going program
DOF	Depending on funding



Costs:

Where actual project costs have been reasonably estimated:

Low	< \$10,000
Medium	\$10,000 to \$100,000
High	> \$100,000

Where actual project costs cannot reasonably be established at this time:

Low	Possible to fund under existing budget. Project is part of, or can be part of an existing on-going program.
Medium	Could budget for under existing work plan, but would require a reapportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.
High	Would require an increase in revenue via an alternative source (i.e., bonds, grants, fee increases) to implement. Existing funding levels are not adequate to cover the costs of the proposed project.

Mitigation Category:

- Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.
- Structure and Infrastructure Project (SIP)- These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.
- Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.
- Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

CRS Category:

- Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.
- Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.
- Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.
- Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
- Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.
- Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities

Benefits:

Where possible, an estimate of project benefits (per FEMA's benefit calculation methodology) has been evaluated against the project costs, and is presented as:

Low=	< \$10,000
Medium	\$10,000 to \$100,000
High	> \$100,000

Where numerical project benefits cannot reasonably be established at this time:

Low	Long-term benefits of the project are difficult to quantify in the short term.
Medium	Project will have a long-term impact on the reduction of risk exposure to life and property, or project will provide an immediate reduction in the risk exposure to property.
High	Project will have an immediate impact on the reduction of risk exposure to life and property.



Table 9.39-13. . Summary of Prioritization of Actions

Mitigation Action/Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
TW-1 (old Washington Twp 1 revised)	Improve drainage and storm sewers on Naughtright, Bartley, Middle Valley and Zellars Roads.	1	1	1	1	1	0	0	1	1	1	0	0	1	1	10	Medium
TW-2 (old Washington Twp 2)	Backup power for Town Hall	0	1	1	1	1	0	0	0	0	1	1	1	1	1	9	Medium
TW-3 (old Washington Twp 4-7)	Support the mitigation of vulnerable structures	1	1	0	0	1	1	0	0	1	1	0	0	1	1	8	Medium
TW-4 (old Washington Twp 8)	Bury power lines, telephone trunk, and television cables in front of Long Valley Fire Company on Fairview Avenue.	0	1	1	1	1	0	0	0	0	1	1	0	1	1	8	Medium
TW-5 (old Washington Twp 9_)	Develop all-hazards public education and outreach program for hazard mitigation and preparedness.	1	1	1	1	1	1	0	0	1	1	1	0	1	1	11	High
TW-6	Purchase digital signboard for public safety messaging	1	1	1	1	1	0	1	0	0	1	1	1	1	0	10	Medium
TW-7	Purchase dual band radio and install in police vehicles	1	1	1	1	1	0	1	0	1	1	1	1	1	0	11	Medium
TW-8	Purchase 3 portable generators for Fire Department	0	1	1	1	1	0	0	0	0	1	1	1	1	1	9	Medium

Note: Refer to Section 6 which contains the guidance on conducting the prioritization of mitigation actions.



9.39.7 Future Needs To Better Understand Risk/Vulnerability

None at this time.

9.39.8 Hazard Area Extent and Location

Hazard area extent and location maps have been generated for the Township of Washington that illustrate the probable areas impacted within the municipality. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the Township of Washington has significant exposure. These maps are illustrated in the hazard profiles within Section 5.4, Volume I of this Plan.

9.39.9 Additional Comments

None at this time.



Figure 9.39-1. Township of Washington Hazard Area Extent and Location Map 1

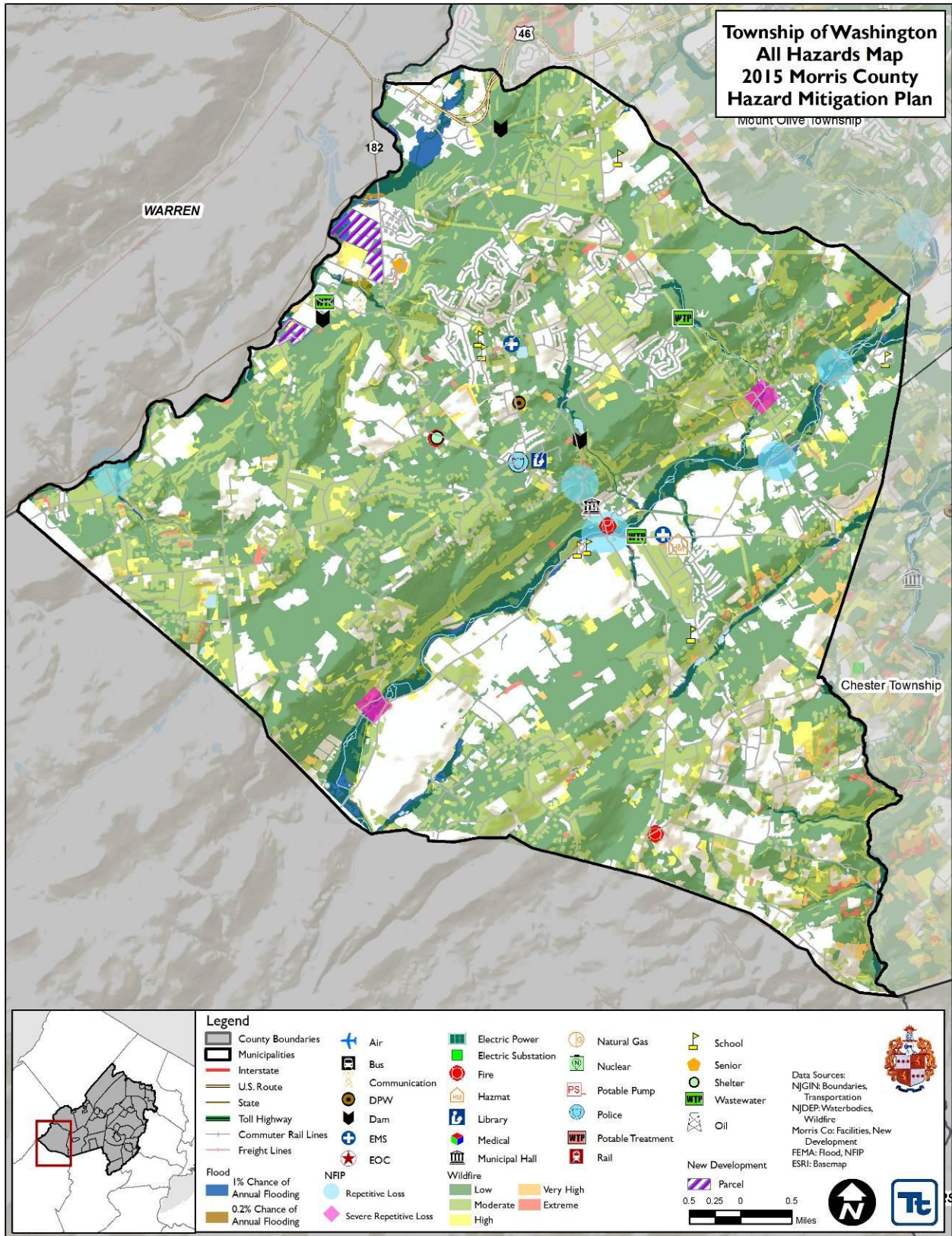
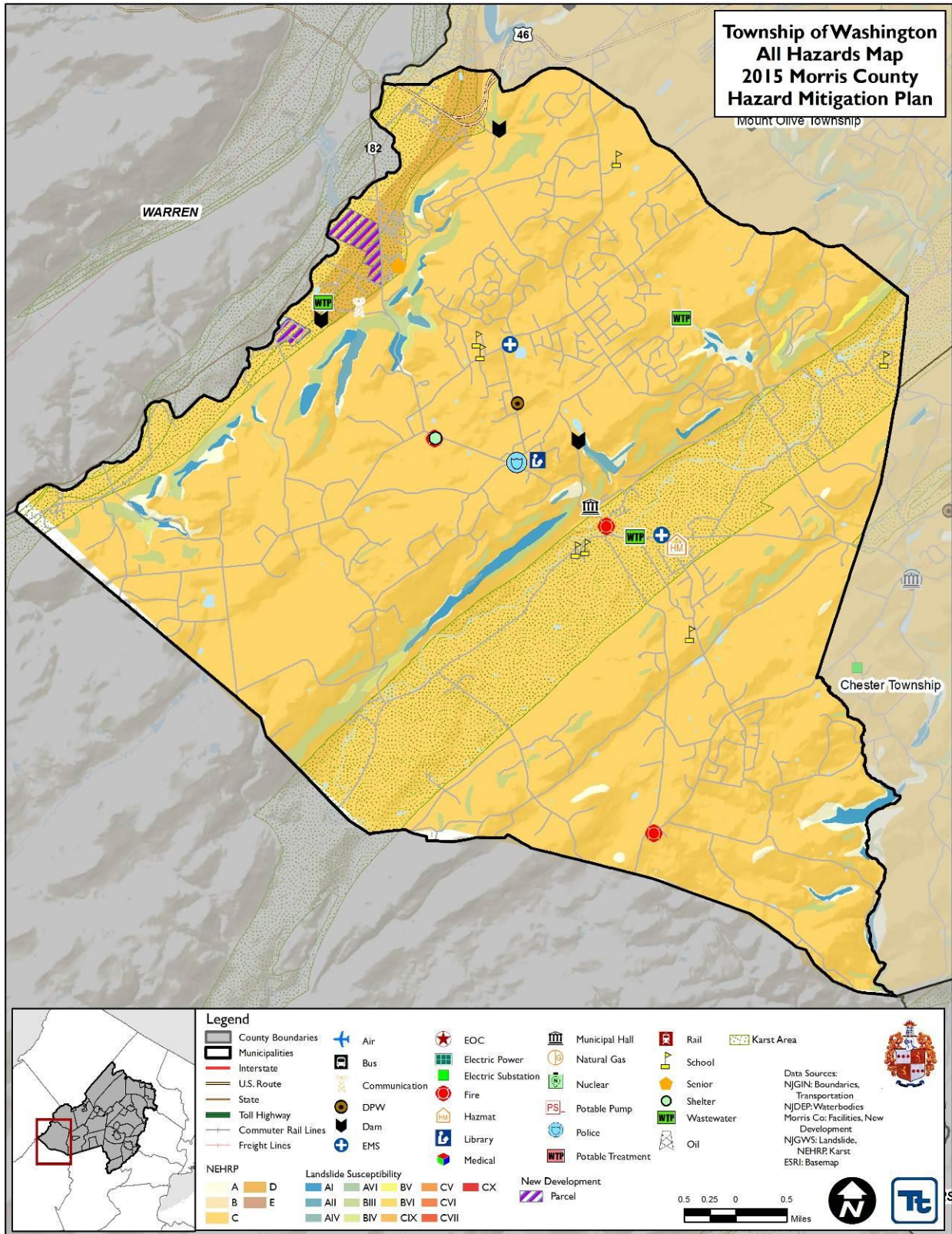




Figure 9.39-2. Township of Washington Hazard Area Extent and Location Map 2





Action Number:

TW-1

Mitigation Action/Initiative:

Drainage and Storm Sewer Improvements on Multiple Roads in Township

Assessing the Risk	
Hazard(s) addressed:	Flood
Specific problem being mitigated:	Flooding of areas. Evacuation route affected.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Improve drainage and storm sewers
	2. Do nothing – current problem continues
	3. No other feasible options were identified for this action
Action/Project Intended for Implementation	
Description of Selected Action/Project	Improve drainage and storm sewers on Naughtright, Bartley, Middle Valley and Zellars Roads.
Action/Project Category	SIP
Goals/Objectives Met	4
Applies to existing and/or new development; or not applicable	Existing
Benefits (losses avoided)	Medium
Estimated Cost	High
Priority*	Medium
Plan for Implementation	
Responsible/Lead Agency/Department	Municipal DPW Director
Local Planning Mechanism	Stormwater Management, Capital Improvement
Potential Funding Sources	HMA funding, Capital Budget
Timeline for Completion	Long Term / DOF
Reporting on Progress (Do not complete – this will be used for the 2020 Update)	
Date of Status Report/Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Action Number: TW-1

Mitigation Action/Initiative: Drainage and Storm Sewer Improvements on Multiple Roads in Township

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	0	
Fiscal	0	
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	0	
Timeline	0	
Local Champion	1	
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	Medium	



Action Number: TW-2 and TW-8
Mitigation Action/Initiative: Backup Power for Critical Facilities

Assessing the Risk	
Hazard(s) addressed:	All
Specific problem being mitigated:	Loss of power to critical facilities within the Township
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Purchase and/or install backup power for Town Hall and Fire Departments
	2. Do nothing – current problem continues
	3. No other feasible options were identified for this action
Action/Project Intended for Implementation	
Description of Selected Action/Project	Purchase and install backup power for the town hall located on Schooleys Mountain Road which serves as a backup EOC and records storage. Additionally, purchase three portable generators for fire department.
Action/Project Category	SIP
Goals/Objectives Met	3
Applies to existing and/or new development; or not applicable	Existing
Benefits (losses avoided)	Medium to High
Estimated Cost	Medium
Priority*	Low to Medium
Plan for Implementation	
Responsible/Lead Agency/Department	Municipal Administration and OEM, Fire Departments
Local Planning Mechanism	Emergency Management and Capital Improvement
Potential Funding Sources	HMA grants, Capital Budget, Homeland Security
Timeline for Completion	Long Term / DOF
Reporting on Progress (Do not complete – this will be used for the 2020 Update)	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Action Number:

TW-2 and TW-8

Mitigation Action/Initiative:

Backup Power for Critical Facilities

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	0	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Local Champion	1	
Other Community Objectives	1	
Total	9	
Priority (High/Med/Low)	Medium	



Action Number: TW-4

Mitigation Action/Initiative: Bury utilities (power lines, telephone trunk and television cables)

Assessing the Risk	
Hazard(s) addressed:	All
Specific problem being mitigated:	Continuity of Operations for Emergency Response
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Bury utilities (power lines, telephone trunk and television cables)
	2. Do nothing – current problem continues
	3. No other feasible options were identified for this action
Action/Project Intended for Implementation	
Description of Selected Action/Project	Bury power lines, telephone trunk, and television cables in front of Long Valley Fire Company on Fairview Avenue.
Action/Project Category	SIP
Goals/Objectives Met	2
Applies to existing and/or new development; or not applicable	Existing
Benefits (losses avoided)	High
Estimated Cost	High
Priority*	Medium
Plan for Implementation	
Responsible/Lead Agency/Department	Municipal OEM
Local Planning Mechanism	Emergency Management, Capital Improvement
Potential Funding Sources	HMA funding
Timeline for Completion	Long Term / DOF
Reporting on Progress (Do not complete – this will be used for the 2020 Update)	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Action Number: TW-4

Mitigation Action/Initiative: Bury utilities (power lines, telephone trunk and television cables)

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	0	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	0	
Local Champion	1	
Other Community Objectives	1	
Total	8	
Priority (High/Med/Low)	Medium	